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Janet Shibata

PATENT
Docket No. PD-201008A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:

Erin H. Sibley

Serial No. 09/844,923 Group Art Unit: 2623

Filed: 04/26/2001 Examiner: Joseph G. Ustaris

For: DIGITAL OVER-THE-AIR COMMUNICATION SYSTEM FOR USE WITH DIGITAL TERRESTRIAL BROADCASTING SYSTEM

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P. O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Sir:

The following Appeal Brief is submitted in response to the Notice of Appeal filed January 27, 2009.

I. Real Party in Interest

The real party in interest in this matter is The DIRECTV Group, Inc., of El Segundo, California.

II. Related Appeals and Interferences

An appeal for 09/564,082 is pending before the Board.

III. Status of the Claims

Claims 1-12 and 18-21 are pending in the application and are appealed herein. Claims 13-17 have been withdrawn.

IV. Status of Amendments

There have been no amendments filed subsequent to the Response to Final Office Action of December 23, 2008.

V. Summary of Claimed Subject Matter

The present invention is best illustrated generally in Figure 1 and more specifically, in Figure 11. Claim 1 is directed to a system 10 of broadcasting digital channels over an allocated frequency spectrum. Claim 1 recites a satellite 14, a network operations center 12 uplinking electronic content to the satellite, and a terrestrial over-the-air digital broadcast center 16 receiving the electronic content form the satellite 14 allocating a frequency spectrum for a digital television channel having a total bandwidth and generating an over-the-air digital television channel signal over at least a first portion 172 of the allocated frequency spectrum. The first portion is less than the total bandwidth and forms an excess bandwidth portion. The above is described in paragraphs 30-32(Fig 1) with respect to the general structure, paragraphs 57 and 58 (Fig. 11) and Figure 10 with respect to the spectrum portions (paragraph 56). The terrestrial over-the-air digital broadcast center inserts digital over-the-air electronic content corresponding to the electronic content over the excess bandwidth portion 174. In Claim 1 the over-the-air digital broadcast center is a terrestrial system. A user appliance 18 receives the over-the-air electronic content. This is described in paragraph 30, line 4 and is illustrated in Fig. 1. The user appliance 18 has conditional access software 258 described in paragraph 67, lines 3-8.

Claim 2 recites that the over-the-air broadcast center is coupled to a stratospheric platform. A stratospheric platform is described in paragraph 33.

Claim 3 recites that the over-the-air center is coupled to a cell tower. The cell tower is also described in paragraph 33, line 2.

Claim 4 recites that the over-the-air broadcast center is coupled to a TV broadcast tower. The TV tower is set forth in line 3 of paragraph 33. It should be noted that a generic wireless transmitter 60 is illustrated in Figure 1 to represent each of the recitations of Claims 2, 3 and 4.

Claim 5 recites that the electronic content comprises digital audio signals. Audio signals are specifically mentioned in paragraph 48. Also, audio signals are mentioned in paragraph 68 as well.

In Claim 6, the electronic content is described as video. As mentioned also in paragraph 68, video and audio outputs may be provided. Thus, video and audio signals are provided.

Claim 7 recites that the user appliance is fixed. Figure 1 shows various types of receiver equipment with respect to users 18. This is described in paragraph 34. These devices may be fixed devices such as a personal computer 64 or a mobile device such as laptop computer 66.

Claim 8 recites that the user appliance is mobile. The support for this is found in paragraph 34 as described above with respect to Claim 7.

Claim 9 recites method steps that are set forth in paragraph 58. The steps include uplinking a plurality of electronic content packages to a satellite, receiving the electronic content packages from the satellite, allocating frequency spectrum to a digital television channel having a total bandwidth, over-the-air broadcasting a digital channel signal from a terrestrial over-the-air broadcast center in a first portion of the total bandwidth so that an excess bandwidth portion of the total bandwidth is formed, over-the-air broadcasting of the electronic content packages within excess bandwidth portion of a digital television broadcast signal from a terrestrial over-the-air broadcast center and receiving electronic content packages at a user appliance (lines 5-7). Thus, Claim 9 is similar to Claim 1 in that electronic content packages are provided within the excess bandwidth of a digital television broadcast signal. The digital television broadcast signal is provided from a terrestrial over-the-air broadcast center.

Claim 10 recites that the over-the-air broadcasting system is performed from a stratospheric platform. This is similar to that set forth in Claim 2 recited above.

Claim 11 recites that the over-the-air broadcasting is from a cell tower. Support for this is similar to Claim 3 set forth above.

Claim 12 recites that the over-the-air broadcasting is performed from a TV broadcast tower. This is similar to Claim 4 set forth above.

Claim 18 depends from Claim 1 and recites that the user appliance 18 receives the electronic content without receiving the digital television channel signal. This is described in paragraph 58, lines 10-17.

Claim 19 depends from Claim 9 and recites that receiving electronic content packages through a user appliance 18 comprises receiving the electronic content packages through the user appliance without receiving the digital television channel signal. This is similar to Claim 18 and is also found in paragraph 58, lines 10-17.

Claim 20 depends from Claim 1 and recites that the user appliance disregards the digital television channel. This is set forth in paragraph 58, lines 10-17.

Claim 21 depends from Claim 9 and recites the further step of disregarding the digital television channel. This is also set forth in paragraph 58, lines 10-17.

VI. Grounds of Rejection to be Reviewed on Appeal

The following issues are presented in this appeal:

Whether Claims 1-7, 9-12, 18-21 are unpatentable under 35 U.S.C. §103(a) over Hendricks et al. (U.S. 6,160,989) in view of Eldering et al. (U.S. 6,704,930) and Breslauer (US 6,637,027).

Whether Claim 8 is unpatentable under 35 U.S.C. §103(a) over Hendricks et al. (U.S. 6,160,989) in view of Eldering et al. (U.S. 6,704,930) and Breslauer (US 6,637,027) as applied to claim 1 above, and further in view of Owa et al. (U.S. 6,711,379)

VII. Argument

The rejection of Claims 1-7, 9-12, 18 and 19 under 35 U.S.C. §103(a) over Hendricks et al. (U.S. 6,160,989) in view of Eldering et al. (U.S. 6,704,930) and Breslauer (US 6,637,027)

Claim 1

The Hendricks reference illustrates a concatenated cable system 210 in Figure 1. While it is true that the concatenated cable system may be replaced by a cellular network as described in Figure 7, there is no teaching or suggestion for an allocated bandwidth having excess bandwidth. For the excess bandwidth the Examiner points to col. 10, ll. 28-51, and Fig. 3, reference numeral 216. Box 216 merely illustrates analog signals, digital compressed signals, other analog or digital signals and upstream interactivity. There is no teaching or suggestion in these portions for excess bandwidth and inserting digital over-the-air electronic content into the excess bandwidth portion. It appears that reference numeral 216 is merely referring to the media for communicating signals between the network controller 214 and the set top terminal 220. There is no teaching that any of these signals is communicated in anything but an allocated portion. The system of claim 1 clearly differentiates that a channel signal has a bandwidth, all of which may not be used. The electronic content is broadcast in the excess bandwidth.

In response to the above arguments mailed on January 22, 2009, the Examiner states, "Any bandwidth outside of the other digital portion is considered excess bandwidth because it is not being used by the other digital portion." However, Claim 1 recites that a digital television channel is communicated over a first portion of the allocated frequency spectrum less than the total bandwidth and that over-the-air electronic content corresponding to the electronic content is inserted into the excess bandwidth portion. Thus, from the recitations of Claim 1 it is clear that a portion of the bandwidth is dedicated to a digital television channel signal and the remaining portion may be used for the over-the-air electronic content. In column 10, beginning in line 30, Hendricks states, "In the preferred system, the signal processor 209 re-routes or demultiplexes and recombines the signals and digital information received from the operation center and allocates different portions of the signal to different frequency ranges." There is no teaching for allocating a particular portion for a first type of service such as digital television signals and then providing a second type of service such as electronic content through an excess bandwidth portion.

The Eldering reference is cited for teaching electronic content over a first portion of an allocated frequency spectrum. Although multiple channels are illustrated in prior art Fig. 1, the Eldering reference does not teach or suggest combining the reception of electronic content in an excess bandwidth portion of a digital channel signal. Although the digital program streams are described as multiplex streams that vary over time, there is no teaching that excess bandwidth is used for digital over-the-air electronic content corresponding to electronic content received from a satellite. The Examiner then points to col. 3, ll. 20-22 in the Hendricks reference for motivation to combine. The passage in Hendricks, col. 3, ll. 20-22 states:

> "What is needed is a network controller for a cable headend that accommodates different bandwidth availability between cable headend and certain viewer homes."

Then, the Examiner points to col. 1, ll. 46-49 of the Eldering reference for motivation. This sentence states:

> "Thus, it is desirable to offer enhanced services in the digital programming stream as well as to preserve the integrity of the digital programming stream."

Neither of these references teaches or suggests the use of excess bandwidth for communicating electronic content. Further, neither the Hendricks reference nor the Eldering reference teaches conditional access for accessing the electronic content.

In response to the above arguments, the Examiner points to Fig. 1 and Program 1 in the Eldering reference for a first portion less than the total bandwidth and a second program that is in the excess bandwidth. However, Appellants respectfully submit that it is clear that a total bandwidth has been allocated for a television signal without providing additional bandwidth for digital over-the-air electronic content.

The Breslauer reference is set forth for disclosing a system that controls access to broadcast services. The Examiner points to the conditional access manager 314 and col. 7, ll. 26-27. Further, the Examiner points to col. 8, l. 42 through col. 9, l. 12. Applicants have reviewed these passages and can find no teaching or suggestion of "a user appliance receiving said over-the-air electronic content using conditional access software" wherein the electronic content is communicated through an excess bandwidth portion of a digital television signal. Although Applicants agree that conditional access software is generally shown in the Breslauer reference, the conditional access software does not allow the user appliance to access the electronic content

is communicated through an excess bandwidth portion of a digital television signal. The conditional access software as set forth in col. 1, ll. 41-59 allows the user to obtain content from a broadcast data provider such as a television or radio broadcaster but not from excess bandwidth.

Therefore, the combination of the three references fails to teach providing digital television channels over a first portion of allocated frequency spectrum and in an excess portion not used for the over-the-air digital television channel signal, inserting digital over-the-air electronic content.

Claim 9

Independent Claim 9 stands or falls together with Claim 1.

Claims 2 and 10

Claims 2 and 10 recite that the over-the-air broadcasting is performed from a stratospheric platform. Applicants agree that the Hendricks reference does teach the use of a satellite as illustrated in Figs. 1-3. However, there is no teaching of a stratospheric platform which is substantially different than a satellite. For one, a stratospheric platform is not in an earth orbit but rather within the stratosphere of the earth. This makes the stratospheric platform much different than a satellite. In response to the above argument, the Examiner states, "However, reading the claims in the broadest sense, the satellite disclosed by Hendricks is coupled with the cable head end thereby meeting the limitations of the claim. Furthermore, Appellants' specification does not disclose any examples of stratospheric platforms other than satellites." As mentioned above, Appellants respectfully submit that stratospheric platforms and satellites are different types of devices. The stratospheric platform is located within the earth's atmosphere whereas a satellite is located in an extraterrestrial position outside of the earth's atmosphere. A stratospheric platform is described in the last four lines of paragraph 68. One sentence of this grouping states, "This embodiment may also include another type of high altitude communication device such as a stratospheric platform rather than a satellite." Therefore, the stratospheric platform and the satellite are clearly distinguished as different devices and, therefore, the claims should be given different scope.

Therefore, Applicants respectfully submit that a stratospheric platform is not set forth in the Hendricks reference as described by the Examiner. Appellants, therefore, respectfully request the Board to reverse the Examiner's position with respect to Claim 2 and 10.

Claims 3 and 11

Claims 3 and 11 recite that the over-the-air broadcasting is performed from a cell tower. The Examiner cites Col. 7, lines 29-34 of *Hendricks*, for a cell tower. No specific teaching is provided for a cell tower, although a cellular network is mentioned in Col. 7. Appellants, therefore, respectfully request the Board to reverse the Examiner's position with respect to Claims 3 and 11.

Claims 4 and 12

Claims 4 and 12 recite the over-the-air broadcasting is performed from a TV broadcast tower. The Examiner cites *Hendricks*, Col. 7, lines 29-34 for a broadcast tower as being similar and interchangeable with a cellular network. Appellant respectfully submits that no teaching or suggestion is provided for the broadcast tower in the *Hendricks* reference. The Examiner then agreed with the Appellants that Hendricks does not explicitly disclose a TV broadcast tower. The Examiner then takes official notice that TV broadcast towers are used in transmission schemes. However, the combination of the TV broadcast tower with allocating a frequency spectrum for a digital television channel having a total bandwidth that has excess bandwidth and inserting electronic content thereinto is not taught or suggested. Therefore, Appellant respectfully requests the Board to reverse the Examiner's position with respect to Claims 4 and 12.

Claims 5 and 6

Claims 5 and 6 are directed to digital and video signals. Admittedly, the *Hendricks* reference discloses both audio and video programs. However, no teaching or suggestion is provided for the combination set forth with respect to Claim 1 in either the *Hendricks* reference or the *Beckmann* reference as set forth above. Appellants, therefore, respectfully request the Board to reverse the Examiner's position with respect to Claims 5 and 6.

Claim 7

Claim 7 recites that the user appliance is fixed. A set top box as set forth by the Examiner is fixed. However, neither the *Hendricks* nor the *Beckmann* reference teach or suggest the combination of Claim 7 and Claim 1. Appellants, therefore, respectfully request the Board to reverse the Examiner's position with respect to Claim 7.

Claims 18 and 19

Claims 18 and 19 stand or fall together. Claims 18 and 19 recite that the user appliance receives the electronic content without receiving the digital television channel signal. The Examiner points to Hendricks' Fig. 3, reference numeral 216 and column 12, lines 44-57 for this teaching. The Examiner states that, "Hendricks discloses that the set top terminal can only demultiplex, extract and decompress a single channel at a time. Therefore, if the set top terminal is tuned to a program signal (digital compressed signals), then the set top terminal does not receive the digital channel signal (other digital)." Appellants respectfully submit that the Examiner has misunderstood this claim. The electronic content is received without receiving the digital television channel signal. It is clear that the Hendricks reference can receive the various transmissions. However, electronic content is not received without receiving the digital television channel signal. The Hendricks reference is merely referring to a tuner for receiving various program signals. Tuning is different than not receiving the digital television channel signal whose excess bandwidth is used to transmit electronic content. Therefore, Appellants respectfully request the Board to reverse the Examiner's position with respect to Claims 18 and 19.

Claims 20 and 21

Claims 20 and 21 depend from Claims 1 and 9, respectively. Claims 20 and 21 stand or fall together. Claims 20 and 21 recite that the user appliance disregards the digital television channel. The Examiner essentially uses the same argument provided above with respect to Claims 18 and 19. However, the difference is the use of the word disregard and that the digital television channel is disregarded rather than not being received as set forth in Claim 18. Again, the Hendricks reference provides no teaching for disregarding other signals while receiving the electronic content packages through the user appliance. Therefore, Appellants respectfully request the Board to reverse the Examiner's position with respect to Claims 20 and 21.

The rejection of Claim 8 under 35 U.S.C. §103(a) over Hendricks et al. (U.S. 6,160,989) in view of Eldering et al. (U.S. 6,704,930) and Breslauer (US 6,637,027) as applied to claim 1 above, and further in view of Owa et al. (U.S. 6,711,379).

Claim 8

Claim 8 recites that the user appliance is mobile. Although a mobile terminal is illustrated in Figures 23 and 24 of the Owa reference, there is no teaching or suggestion for the elements missing from the combination of references as set forth above in the arguments to the rejection of Claims 1 and 9. That is, there is no teaching or suggestion that the mobile terminal in the Owa reference can be used for receiving electronic content packages from excess bandwidth of digital television channels. Therefore, Appellants respectfully request the Board to reverse the Examiner's position with respect to Claim 8.

VIII. Claims Appendix

A copy of each of the claims involved in this appeal, namely claims 1-12 and 18-21 is attached as a Claims Appendix.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.

XI. Conclusion

For the foregoing reasons, Appellants respectfully request that the Board direct the Examiner in charge of this examination to withdraw the rejections.

Please charge any fees required in the filing of this appeal to Deposit Account 50-0383.

Respectfully submitted,

Dated: March 27, 2009

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CLAIMS APPENDIX

1. A system of broadcasting comprising:

a satellite;

a network operations center uplinking electronic content to said satellite;

a terrestrial over-the-air digital broadcast center receiving said electronic content from said satellite, allocating a frequency spectrum for a digital television channel having a total bandwidth, generating an over-the-air digital television channel signal over a first portion of the allocated frequency spectrum so that the first portion is less than the total bandwidth to form an excess bandwidth portion and inserting digital over-the-air electronic content corresponding to the electronic content into the excess bandwidth portion; and

a user appliance receiving said over-the-air electronic content using conditional access software.

2. A system as recited in claim 1 wherein said over-the-air broadcast center is coupled to a stratospheric platform.

3. A system as recited in claim 1 wherein said over-the-air broadcast center is coupled to a cell tower.

4. A system as recited in claim 1 wherein said over-the-air broadcast center is coupled to a TV broadcast tower.

5. A system as recited in claim 1 wherein said electronic content comprises digital audio signals.

6. A system as recited in claim 1 wherein said electronic content comprises video.

7. A system as recited in claim 1 wherein said user appliance is fixed.

8. A system as recited in claim 1 wherein said user appliance is mobile.

9. A method of distributing electronic content comprising the steps of:

uplinking a plurality of electronic content packages to a satellite;

receiving the electronic content packages from the satellite;

allocating frequency spectrum to a digital television channel having a total bandwidth;

over-the-air broadcasting a digital channel signal from a terrestrial over-the-air broadcast center in a first portion of the total bandwidth so that an excess bandwidth portion of the total bandwidth is formed;

over-the-air broadcasting the electronic content packages within the excess bandwidth portion from the terrestrial over-the-air broadcast center; and

receiving the electronic content packages at a user appliance using conditional access software.

10. A method as recited in claim 9 wherein the step of receiving over-the-air broadcasting comprises over-the-air broadcasting from a stratospheric platform.

11. A method as recited in claim 9 wherein the step of receiving over-the-air broadcasting comprises over-the-air broadcasting from a cell tower.

12. A method as recited in claim 9 wherein the step of receiving over-the-air broadcasting comprises over-the-air broadcasting from a TV broadcast tower.

13. A method of distributing electronic content comprising the steps of:

digitally compressing the electronic content into a digital video stream;

broadcasting a digital television signal having a excess bandwidth signal;

broadcasting the digital video stream within the excess bandwidth signal.

14. A method as recited in claim 13 further comprising the steps of receiving the digital video stream; monitoring the digital video stream and providing feedback about the digital video stream to a broadcast location.

15. A method as recited in claim 13 further comprising the steps of receiving the electronic content in user appliance.

16. A method as recited in claim 15 wherein the step of receiving comprises the steps of digitally decompressing the digital video stream, and displaying the video stream.

17. A method as recited in claim 15 wherein the step of receiving comprises grabbing an excessive bandwidth.

18. A system as recited in claim 1 wherein the user appliance receives the electronic content without receiving the digital television channel signal.

19. A method as recited in claim 9 wherein receiving the electronic content packages through a user appliance comprises receiving the electronic content packages through a user appliance without receiving the digital television channel signal.

20. A system as recited in claim 1 wherein the user appliance disregards the digital television channel.

21. A system as recited in claim 9 further comprising disregarding the digital television channel.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.